**Susana Cardenas**

**Lesson: NY State Water System**

**Grade 3**

**Duration: 45 minutes**

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| **Learning Objective** | Students will be able explain how New York City’s water supply system operates, and identify reservoirs and the aqueduct system. |
| **Overview** | Students will answer the question “Where does our water come from?” to access prior knowledge. Next, they will be presented with water system vocabulary. Students will watch the following video <https://www.youtube.com/watch?v=98We_KNyy18> Using a ceiling to floor map of the NY state aqueduct system, students will learn how the water is collected upstate in the Catskills Mountains and delivered to New York City and the engineering system behind the water system operation. In groups of 4, students will create a water pipe system. |
| **Teacher**  **Standards** | Domain 3 Instruction  Component 3C Engaging Students in Learning |
| **Student**  **Standards** | SL.3.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 3 topics and texts, building on others’ ideas and expressing their own clearly.SL.3.3: Use knowledge of language and its conventions when writing, speaking, reading or listening.Guideline D—Evaluating accuracy and reliability—Learners understand the need to use reliable information to answer questions. They are familiar with some basic factors to consider in judging the merits of information masses of objects. |
| **Materials and Resources** | * Large zip lock bag * 5 straws * scissors * scotch tape * funnel * plastic cup * 1 cup of water |
| **Procedure:** | * Students will turn and talk about where they think the water that they use comes from. Sentence starters will be presented, and modeled to help students engage in conversation. * I will review vocabulary from a pre-made chart, which will be placed in the science section of the classroom. * Students will be presented with a large map that shows an illustration of pipes connecting the New York State aqueduct and reservoir system. * Students will then learn how the pipe system was engineered using gravity as its main power system. * Students will learn length of the NYS water system pipes and the time that it takes for water to travel from upstate to New York City. * I will tell the students that as groups of 4, they will be creating their own water system. * Students will be divided into groups of 4 per table. * Each table will receive a zip lock bag with 5 straws, scotch tape, a funnel, a plastic cup filled with water. * Students will share the materials equally and each student will have a task in their group. To support ELLS and students who are visual learners a chart will be presented with all the project materials, each one labeled. * I will model cutting a small piece of one of the straws to make it fit into another straw, explaining that this is how they will start their water system project. * I will also model putting a piece of tape on the two straws that I stuck together. * I will go from table to table to confer with the groups. * Once the first two groups have successfully gotten their pipes to work students will put their straws together to form a 10 straw pipeline. * After all the groups have gotten their pipelines to work we will continue to connect the straws together. * We will take turns sharing experiences on creating the pipelines. * We will have a class discussion on what we think about NY states water system and its operation, and what questions we may have now on the functioning of the pipelines. |
| **Assessment** | * Students will write a reflection on where NYC water comes from. |

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|  | **4** | **3** | **2** | **1** |
| **Science concepts/**  **Content** | **I fully understood the concept and was able to clearly explain it to my science partner** | **I mostly understood the concept and was able to explain it to my science partner** | **I understood some of the concept and explained it to my science partner** | **I didn’t understand the concept and/or wasn’t able to explain it to science partner** |